

REMARKS

The Office Action dated April 3, 2006 considered claims 1-24. Claims 1-5, 7, 8, 10-12 and 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Becker, et al. (US 6,192,341 B1) hereinafter *Becker* and Gormish (US 5,910,796) hereinafter *Gormish*. Claims 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Becker/Gormish and McLaughlin, et al. (US 5,739,809). Claims 13, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Becker/Gormish and Bellinger, et al. (US 5,895,455).¹

By this paper, claims 1, 2, 5-7, 11, 12, 14, 18, 19, and 24 have been amended.² Claims 4, 21 and 22 have been cancelled. Accordingly, claims, 1-3, 5-20, and 23-24 are pending, of which claims 1, 11, and 18 are the only independent claims at issue.

The present invention is generally directed to improving the quality of displayed images. Claim 1, for example, recites a method that defines displaying on a display device a set of example images, each example image being generated using corresponding display parameters that result in different degrees of color errors. Claim 1 defines receiving viewer input selecting a preferred example image from among the set of example images. The preferred example image having been generated using particular display parameters indicative of a balance between color correction and resolution. Claim 1 further defines displaying an image on the display device using the particular display parameters that were used to generate the preferred example image. Luminous intensity values are obtained for individual pixel sub-components of a pixel of the display device based on the particular display parameters. The luminous intensity values are obtained by mapping different sets of one or more samples of image data representing the image to the individual pixel sub-components of the pixel. The image is displayed on the display device in accordance with the indicated balance between color correction and resolution by using the obtained luminous intensity values to control the individual pixel sub-components.

Claim 18 is directed to a corresponding computer program product for implementing the method of claim 1. Claim 11 is directed to a method similarly defined to claim 1 for gamma values.

¹ Although the prior art status of the cited art is not being challenged at this time, Applicant reserves the right to challenge the prior art status of the cited art at any appropriate time, should it arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited art.

² Support for the amendments to the claims are found throughout the specification and previously presented claims, including, but not limited to the cancelled claims and paragraphs [0020]-[0022] and [0063]-[0064].

Applicants respectfully submit that the currently amended claims are neither anticipated by, nor made obvious by, the cited art, when considered alone or in combination.

Becker discloses a system and method for customizing data output for sense-impaired users. (Title and Abstract). Generally, *Becker* describes providing users with a set of images including different visual characteristics that should be distinguishable by someone with non-impaired vision. (Col. 6, ll. 16-20 and 41-44 and Col. 7, ll. 19-35). For example, colored dots forming geometric shapes, alphanumeric characters, or the like are displayed to a user. (Col. 6, ll. 16-18). By utilizing dots of appropriate color (e.g., colors in various color frequency ranges) a user's color differentiation (i.e., color blindness) can be evaluated. (Col. 6, ll. 18-20 and Col. 6, l. 59 – Col. 7, l. 12). A user provides input on a number of diagnostic images and, based on the user input, the user's visual preferences are automatically determined. (Col. 6, ll. 34-44). When presenting a subsequent image, visual preferences are preferably applied only if colors that cannot be discriminated by the user are presented together. (Col. 6, ll. 50-55). In some embodiments, color values corresponding to "problem" colors can be displayed at greater saturation or intensity. (Col. 7, ll. 15-18). In addition, display parameters of a *display device* such as contrast, resolution, and refresh rate can be enhanced. (Col. 7, ll. 18-20) (emphasis added).

However, *Becker* does not describe, or even mention, how any of the alternatives for assisting visually impaired users can be used in combination with one another to present an *image*. Although resolution adjustment is mentioned, this adjustment is related to *display device* resolution. Further, there is no description or suggestion that received user-input is used to distinguish user preferences for anything other than visual impairments.

Thus, although pixel saturation or intensity can be changed for an image and contrast, resolution, and refresh rate can be changed for a display device to compensate for a user's visual impairment, input for making these compensations is based solely on input related to testing for the visual impairment. Thus, color adjustments would not be made for a user with myopia or hyperopia. Even if a user had a combination of color blindness and myopia or hyperopia, these visual impairments are measured separately and visual preferences for each are determined separately. Further, applicants submit that *Becker* teaches away from combined testing, since visual alterations to test one type of visual impairment can degrade the accuracy of results for testing other visual impairments if a single image is used to test for multiple impairments.

Gornish describes methods for performing gamma correction. (Title and Abstract). A pair of color bars, including an upper-half color bar and a bottom-half color bar, is presented to a user (Col. 3, ll. 34-52). The color bars are designed to allow comparison of a particular color which has been affected by the monitor's gamma with a color which has not been affected as much by the monitor's gamma. (Col. 3, l. 65 – Col. 7, l. 1). For example, a pair color bars can be used to allow comparison to be made to different basic colors such as red, green or blue. (Col. 7, ll. 2-5). An upper-half color bar holds two basic colors (e.g., red and green) at a constant value, while the other basic color (e.g., blue) is linearly increased from 0 to 255. (Col. 7, ll. 5-15). A corresponding lower-half color bar holds the same two basic colors (e.g., red and green) at a constant value, while alternating values for the other color (e.g., blue) in a checkerboard fashion between value of 0 and a value of 255. (Col. 7, ll. 16-19 and Fig. 4B). The values 0 and 225 are chosen because neither experiences a significant gamma effect. However, the checkerboard effect appears to a user to have a value of 128. The location at which the color of upper-half color bar matches the color of the lower-half color bar is the location at which the gamma-affected color bar is halfway between minimum and maximum brightness. (Col. 7, ll. 37-39).

However, neither *Becker* nor *Gornish* disclose or otherwise suggest receiving input from the viewer selecting a preferred example image from among the set of example images, the preferred example image having been generated using particular display parameters indicative of a balance between color correction and resolution. Further, neither reference discloses or otherwise suggests displaying an image on the display device in accordance with an indicated balance between color correction and resolution by using obtained luminous intensity values to control the individual pixel sub-components. In view of the forgoing, and for any of these reasons, applicants submit that the amended claims patentably define over the prior art of record.

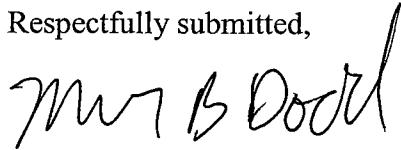
In view of the foregoing, Applicant respectfully submits that the other rejections to the claims are now moot and do not, therefore, need to be addressed individually at this time. It will be appreciated, however, that this should not be construed as Applicant acquiescing to any of the purported teachings or assertions made in the last action regarding the cited art or the pending application, including any official notice. Instead, Applicant reserves the right to challenge any of the purported teachings or assertions made in the last action at any appropriate time in the future, should it arise. Furthermore, to the extent that the Examiner has relied on any Official

Notice, explicitly or implicitly, Applicant specifically requests that the Examiner provide references supporting the teachings officially noticed, as well as the required motivation or suggestion to combine references with the other art of record.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 8th day of June, 2006.

Respectfully submitted,



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